ORDER NO. SD7605-1063

Service Manual

FM/AM STEREO RECEIVER

SA-5060

(X),(XG),(XGH),(XE),
(XAL), (XSD), (XSW)

TECHNICAL SPECIFICATIONS (IHF)

Specifications are subject to change without notice for further improvement.

AMPLIFIER SECTION

1kHz continuous power:	both channels driven	16W + 16W (4Ω) 15W + 15W (8Ω)
40Hz ~20kHz continuous power:	both channels driven	13W + 13W (4Ω) 13W + 13W (8Ω)
Power bandwidth (both channels driven at 8Ω):		5Hz ~ 30kHz, −3 dB
Total harmonic distortion:		0.9% at rated power (40Hz ~ 20kHz) 0.1% at half power (1kHz)
Intermodulation distortion:		0.9%
Damping factor:		40 (8Ω), 20 (4Ω)
Input sensitivity and impedance:	PHONO	2.5mV/47kΩ
	AUX, PLAYBACK	180mV/30kΩ
	REC/PLAY input	150mV/30kΩ
PHONO maximum input voltage:	(1kHz, RMS)	130mV
S/N (IHF, A):	PHONO	74 dB
	AUX	90 dB
Frequency response:	PHONO	RIAA Standard curve ±1.0dB
	AUX	20Hz ~ 20kHz, +1.5 dB, −0.3 dB
Tone controls:	BASS	50Hz, +10 dB ~ −10 dB
	TREBLE	10kHz + 10 dB ~ −10 dB
Loudness control (volume at −30 dB):		50Hz, +10 dB
Output voltage:	TAPE REC OUT	180mV
	REC/PLAY output	30mV

FM TUNER SECTION

Frequency range:	88 ~ 108MHz
Antenna impedance:	300Ω (balanced) 75Ω (unbalanced)
Sensitivity:	2.0μV
Total harmonic distortion:	MONO 0.15% STEREO 0.4%
S/N:	70 dB
Frequency response:	20Hz ~ 15kHz +1, −2 dB
Alternate channel selectivity:	55 dB
Capture ratio:	1.5 dB
Image rejection at 98MHz:	50 dB
IF rejection at 98MHz:	75 dB
AM suppression:	55 dB
Stereo separation:	1kHz 42 dB 10kHz 35 dB
Leak carrier:	−40 dB

AM TUNER SECTION

Frequency range:	525 ~ 1605kHz
Sensitivity:	30μV, 300μV/m
Selectivity:	20 dB
Image rejection at 1000kHz:	37 dB
IF rejection at 1000kHz:	40 dB

GENERAL

Power consumption:	120W
Power supply:	110V/120V/220V/240V
Dimensions (W x H x D)	420 x 142 x 315mm (16 17/32" × 5 1/2" × 12 13/32")
Weight:	6.1kg (13.4 lb.)

TECHNISCHE DATEN (DIN 45 500)

Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

VERSTÄRKERTEIL

RMS-Dauertonleistung bei 1kHz:		
beide Kanäle zusammen ausgesteuert		2 x 16W (4Ω) 2 x 15W (8Ω)
RMS-Dauertorleistung bei 40Hz ~ 20kHz:		
beide Kanäle zusammen ausgesteuert		2 x 13W (4Ω) 2 x 13W (8Ω)
Leistungsbandbreite (beide Kanäle zusammen ausgesteurt bei 4Ω) :		5Hz ~ 30kHz, −3 dB
Harmonische Verzerrungen:		
Nennleistung bei 1 kHz, 4Ω		0.9%
Nennleistung bei 40Hz ~ 16,000Hz, 4Ω		0.9%
Intermodulationsverzerrung:		
Nennleistung bei 250Hz: 8000Hz = 4:1, 4Ω		0.9%
Dämpfungsfaktor:		40 (8Ω) , 20 (4Ω)
Eingangsempfindlichkeit & Impedanz:	PHONO	2.5mV/ 47kΩ
	AUX, PLABACK	180mV/ 30kΩ
	REC/ PLAY Wiedergabe	150mV/ 30kΩ
PHONO Maximale Eingangsspannungen:		
(1kHz RMS)		130mV
Fremdspannungsabstand:	Nennleistung PHONO	64 dB
	AUX	75 dB
	50mW Ausgangsleistung PHONO	55 dB
	AUX	58 dB
Frequenzgang:	PHONO	RIAA Standardkurve ±1.0 dB
	AUX	20Hz ~ 20kHz, +1.5 dB, −0.3dB
Klangregler:	BASSE	50Hz, +10 dB ~ −10 dB
	HÖHEN	10kHz, +10 dB ~ −10 dB
Gehorgerechte Lautstärkekorrektur (Lautstärke −30 dB) :		50Hz, +10 dB
Ausgangsspannungen:	REC OUT	180mV
	REC/ PLAY Aufnahme	30mV

UKW-TUNERTEIL

Empfangsbereich:	88 ~ 108MHz
Antennenanschluss:	300Ω (symmetrisch) 75Ω (asymmetrisch)
Empfindlichkeit:	2.3μV, 30 dB Fremdspannungsabstand 300Ω 1.6μV, 20 dB Fremdspannungsabstand 300Ω 1.3μV, 30 dB Fremdspannungsabstand 75Ω 0.9μV, 20 dB Fremdspannungsabstand 75Ω
Harmonische Verzerrung:	MONO 0.15% STEREO 0.4%
Fremdspannungsabstand:	MONO 60 dB STEREO 58 dB
Frequenzgang:	20Hz ~ 15kHz, +1.0 dB, −2.0dB
Selektivität:	55 dB
Gleichwellen-Selektion:	1.5 dB
Spiegelselektion bei 98MHz:	50 dB
ZF-Festigkeit bei 98MHz:	75 dB
AM-Unterdrückung:	55 dB
Stereo Übersprechdämpfung:	42 dB bei 1kHz, 35 dB bei 10kHz
Trägerrest (19kHz, 30kHz):	−40 dB
Begrenzung, Einsatzpunkt:	1.2μV
Bandbreite:	ZF-Verstärker 250kHz UKW-Demodulator 1000kHz

MW-TUNERTEIL

Empfangsbereich:	525 ~ 1605kHz
Empfindlichkeit:	30μV, 300μV/ m
Selektivität:	20 dB
Spiegelselektion bei 1000kHz:	37 dB
ZF-Festigkeit bei 1000kHz:	40 dB

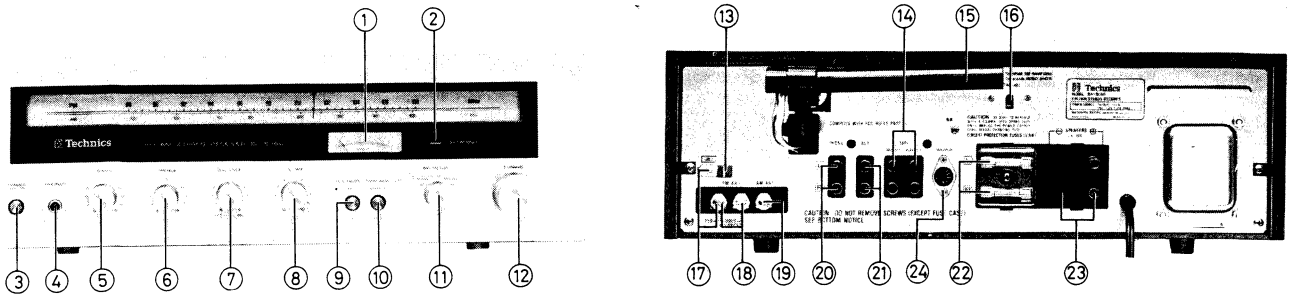
ALLGEMEINE DATEN

Leistungsaufnahme:	120W
Netzspannung umschaltbar:	110V/ 120V/ 220V/ 240V
Abmessungen (B x H x T):	420 x 142 x 315mm
Gewicht:	6.1kg

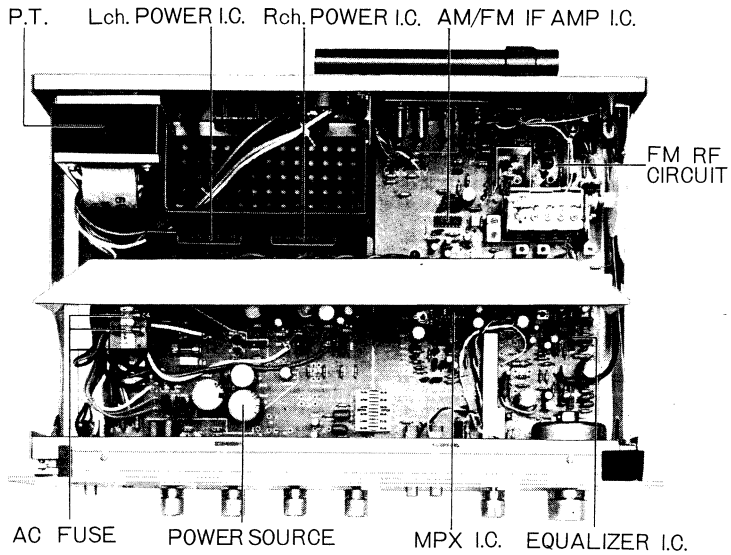
Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

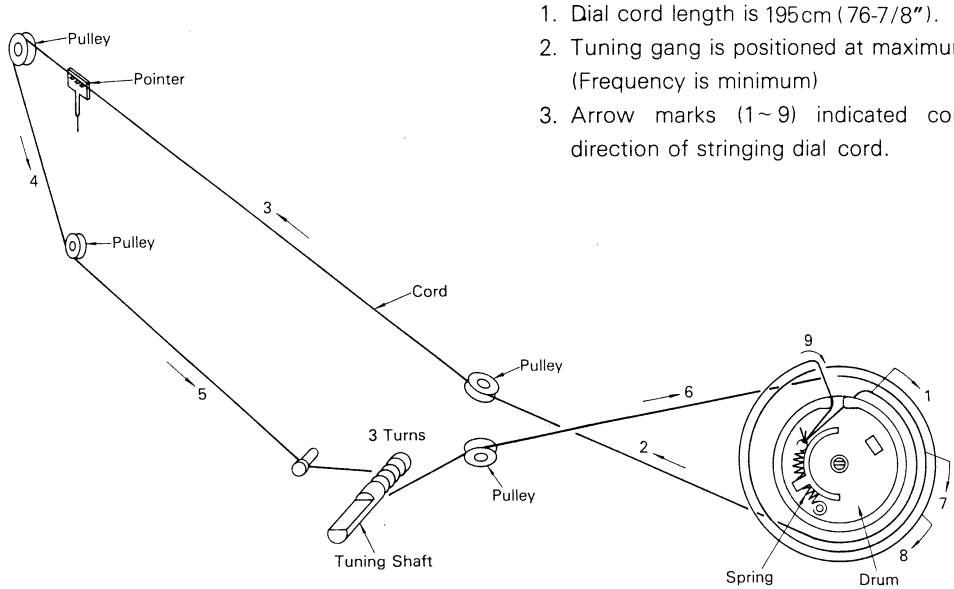
■ LOCATION OF CONTROLS



① SIGNAL METER
② FM STEREO INDICATOR
③ POWER SOURCE PUSH SWITCH
④ HEADPHONES JACK
⑤ BASS CONTROL
⑥ TREBLE CONTROL
⑦ BALANCE CONTROL
⑧ VOLUME CONTROL
⑨ LOUDNESS SWITCH
⑩ TAPE MONITOR PUSH SWITCH
⑪ SELECTOR SWITCH
⑫ TUNING CONTROL
⑬ GROUND TERMINAL
⑭ TAPE DECK CONNECTION TERMINALS
⑮ AM FERRITE ANTENNA COIL
⑯ VOLTAGE ADJUSTER
Set for [X], [XG], [XGH], [XE], [XSD] and [XSW]
⑰ FM ANTENNA TERMINALS...75Ω
⑱ FM ANTENNA TERMINALS...300Ω
⑲ AM ANTENNA TERMINAL
⑳ PHONO INPUT TERMINALS
㉑ AUX INPUT TERMINALS
㉒ CIRCUIT PROTECTION FUSES
㉓ SPEAKER TERMINALS
㉔ REC/PLAY (DIN) SOCKET



■ DIAL CORD INSTALLATION GUIDE



1. Dial cord length is 195cm (76-7/8").
2. Tuning gang is positioned at maximum capacity. (Frequency is minimum)
3. Arrow marks (1~9) indicated correct order and direction of stringing dial cord.

■ ALIGNMENT INSTRUCTIONS

Notes:

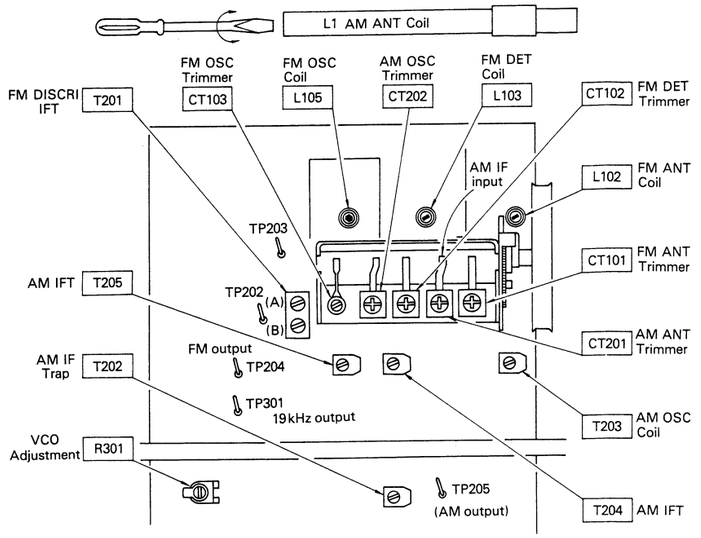
1. Volume control ..... Maximum.
2. Balance control ..... Center.
3. Selector switch ..... AM, FM MONO (FM-RF, FM-IF).
4. Tape monitor switch ..... Source.
5. Maintain line voltage at rated voltage.
6. Output of signal generator should be no higher than necessary to obtain an output reading.
7. 300 Ω FM Dummy antenna ..... Refer to fig. 2.

	SIGNAL GENERATOR or SWEEP GENERATOR		DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE) (DISTORTION METER)	ADJUSTMENT POINTS	REMARKS
	CONNECTION	FREQUENCY				
	AM ALIGNMENT					
1	High side through 0.001 μF to AM ANT trimmer terminal Common to chassis.	455kHz (Set for England to 470kHz)	Point of non-inter-ference	Connect vertical amplifier of scope to **TP205** through 0.1 μF capacitor.	T204 (1st IFT) T205 (2nd IFT) T202 (IF Trap)	Adjust for maximum output.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver.	600kHz (30% Mod. with 400Hz)	600kHz [41.7mm($1\frac{21}{32}$")]	Connect VTVM or scope to speaker terminal of receiver.	T203 (OSC Coil) L1 (ANT Coil)	Adjust for maximum output. Adjust ferrite core of L1 by screw driver.
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500kHz (30% Mod. with 400Hz)	1500kHz [190.3mm($7\frac{15}{32}$")]	Connect VTVM or socpe to speaker terminal of receiver.	CT202 (OSC Trimmer) CT201 (ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
	FM-IF ALIGNMENT					
4		No Signal	Point of non-inter-ference	Connect DC voltmeter between **TP202** and **TP203**, refer to fig. 1.	T201 (DISCRI IFT) (A) Orange Core	Adjust for 0mV indication.
	FM-RF ALIGNMENT					
5	Connect to FM antenna terminal through FM dummy antenna.	90MHz (100% Mod. with 400Hz)	90MHz [27.2mm($\frac{7}{8}$")]	Connect VTVM or scope to speaker terminal of receiver.	L105 (OSC Coil) L103 (DET Coil) L102 (ANT Coil)	Adjust for maximum output.
6	Connect to FM antenna terminal through FM dummy antenna.	106MHz (100% Mod. with 400Hz)	106MHz [184.1mm($7\frac{1}{4}$")]	Connect VTVM or scope to speaker terminal of receiver.	CT103 (OSC Trimmer) CT102 (DET Trimmer) CT101 (ANT Trimmer)	Adjust for maximum output. Repeat steps (5) and (6)
	FM MONO DISTORTION ALIGNMENT					
7	Connect to FM antenna terminal through FM dummy antenna.	100MHz (100% Mod. with 400Hz)	100MHz	Connect distortion meter to speaker terminal of receiver.	T201 (DISCRI IFT) (B) Green Core	Adjust for minimum of distortion meter indication. Repeat steps (4) and (7).
	FM MPX PILOT ALIGNMENT					
	Using a frequency counter			Using alternate system		
8	① 98MHz Non-modulated mono signal applied to set. ② Selector switch to FM AUTO. ③ Connect frequency counter to **TP301** through 100kΩ. ④ Adjust **R301** to 19kHz ±30Hz.			① Upply stereo signal from generator or stereo station to receiver. ② Adjust **R301** until stereo indicator lights up. Cement arm of **R301** as shown in fig. 3.		

■ FM-RF ALIGNMENT INSTRUCTIONS.....Only set for Germany

ABGLEICHANWEISUNGEN.....VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN					
MESSENDER		SKALENZEIGER-EINSTELLUNG DES EMPFÄNGERS [ABSTAND]	ANGEIGE (RÖHRENVOLTMETER ODER OSZILLOGRAPH)	ABGLEICH	BEMERKUNGEN
SCHALTUNG	FREQUENZ				
FM HF-ABGLEICH					
Anschluß an den FM Antennenanschluß über die künstliche. FM Antenne (Vgl. Abb. 2)	87.5MHz (100% Mod bei 400Hz)	87.5MHz [0mm]	Output meter über Lautsprecher-schwingspule anschließen.	L105 (Oszillatorspule)	Auf max. Ausgang abgleichen
〃	90MHz (〃)	90MHz [27.2mm]	〃	L103 (Zwischenkreis) L102 (Antennenspule)	〃
〃	106MHz (〃)	106MHz [184.1mm]	〃	CT103 (OSZ. Trimmer) CT102 (DET. Trimmer) CT101 (ANT. Trimmer)	〃

■ ALIGNMENT POINTS



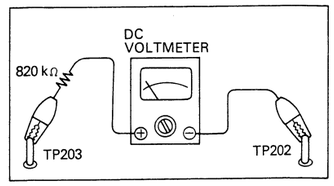
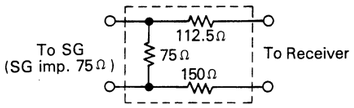
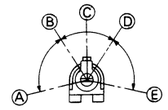


Fig. 1



300Ω FM Dummy Antenna

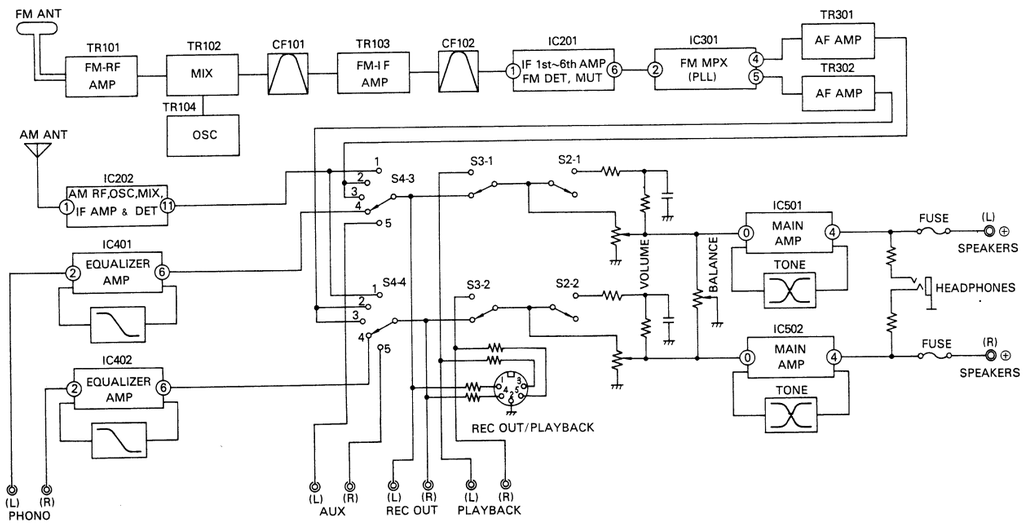
Fig. 2



A–B, D–E: Stereo OFF Position.
B–D: Stereo ON Position (Indicator Lighting).
C: Adjust Point of Pilot Circuit.

Fig. 3

■ BLOCK DIAGRAM



■ TO REMOVE CABINET

(1) Remove two (2) cabinet mounting metal clamp from set rear panel. (Left and Right side)
(2) Remove four (4) cabinet mounting screws (side) Nos 1~4, as shown in fig. 4.
(3) Remove metal fitting of cabinet from holes A and B of front panel in arrow direction ①, as shown in fig. 4.
(4) Remove cabinet from chassis in arrow direction ②, as shown in fig. 4.
(5) To reassemble, reverse above procedure.

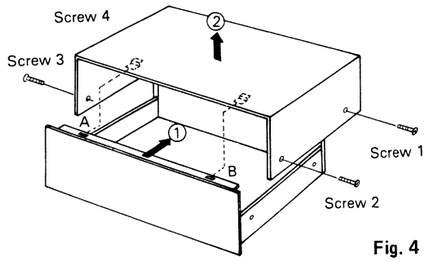
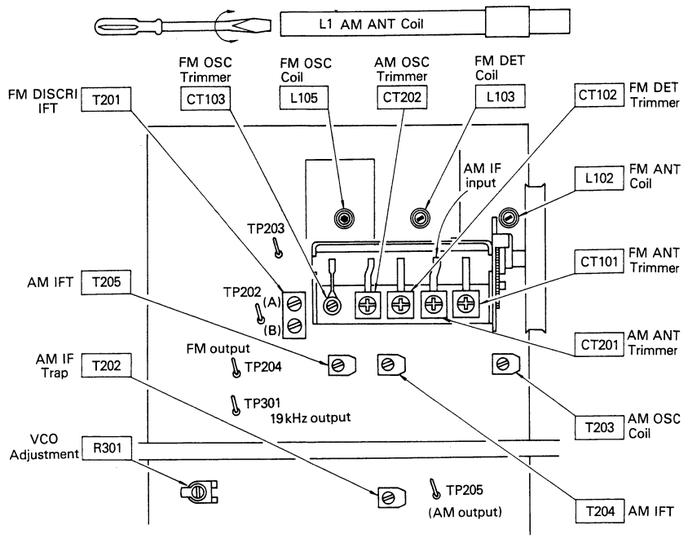


Fig. 4

■ ALIGNMENT POINTS



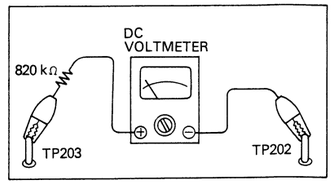
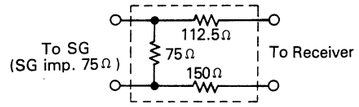
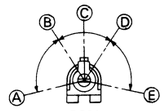


Fig. 1



300 Ω FM Dummy Antenna

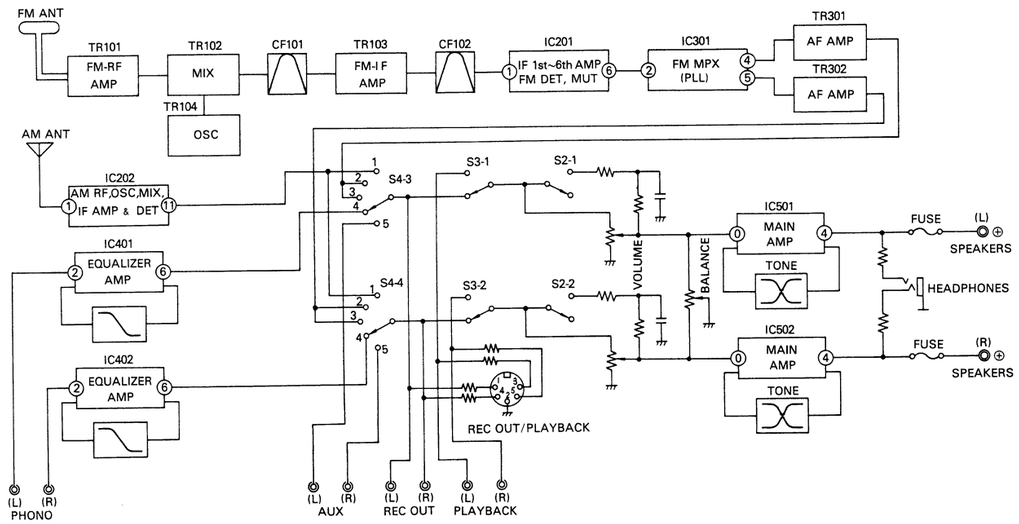
Fig. 2



A – B, D – E: Stereo OFF Position.
B – D: Stereo ON Position (Indicator Lighting).
C: Adjust Point of Pilot Circuit.

Fig. 3

■ BLOCK DIAGRAM



■ TO REMOVE CABINET

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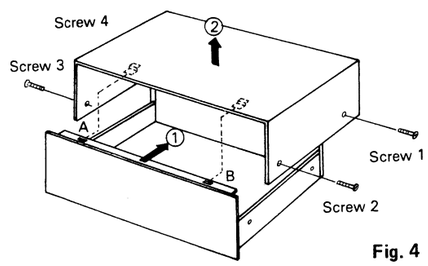
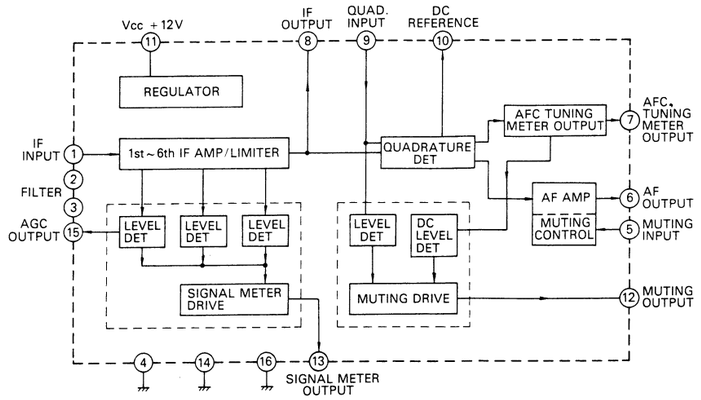
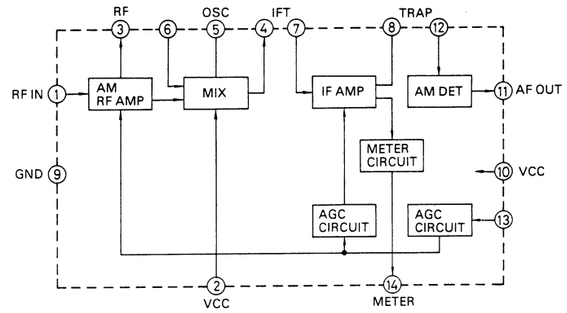


Fig. 4

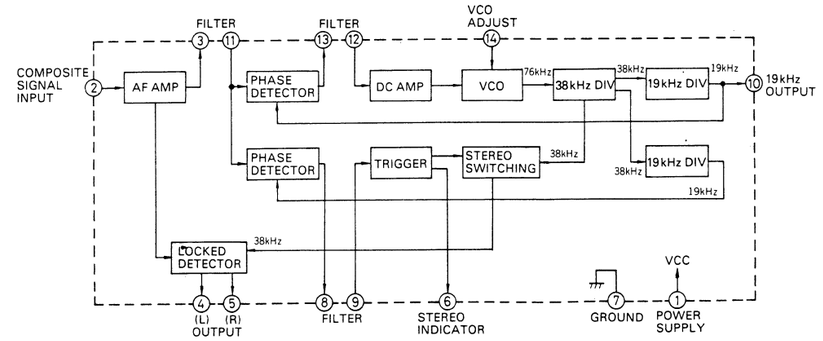
■ BLOCK DIAGRAM OF INTEGRATED CIRCUIT



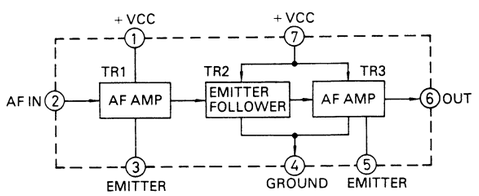
IC201 SVILA1230
FM IF 1st ~ 6th AMP,
FM DETECTOR, MUTING



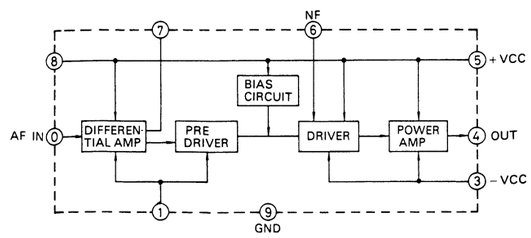
IC202 SVIHA1151
AM RF, OSC, MIX,
IF AMP & DETECTOR



IC301 SVIHA1156
(FM MPX)

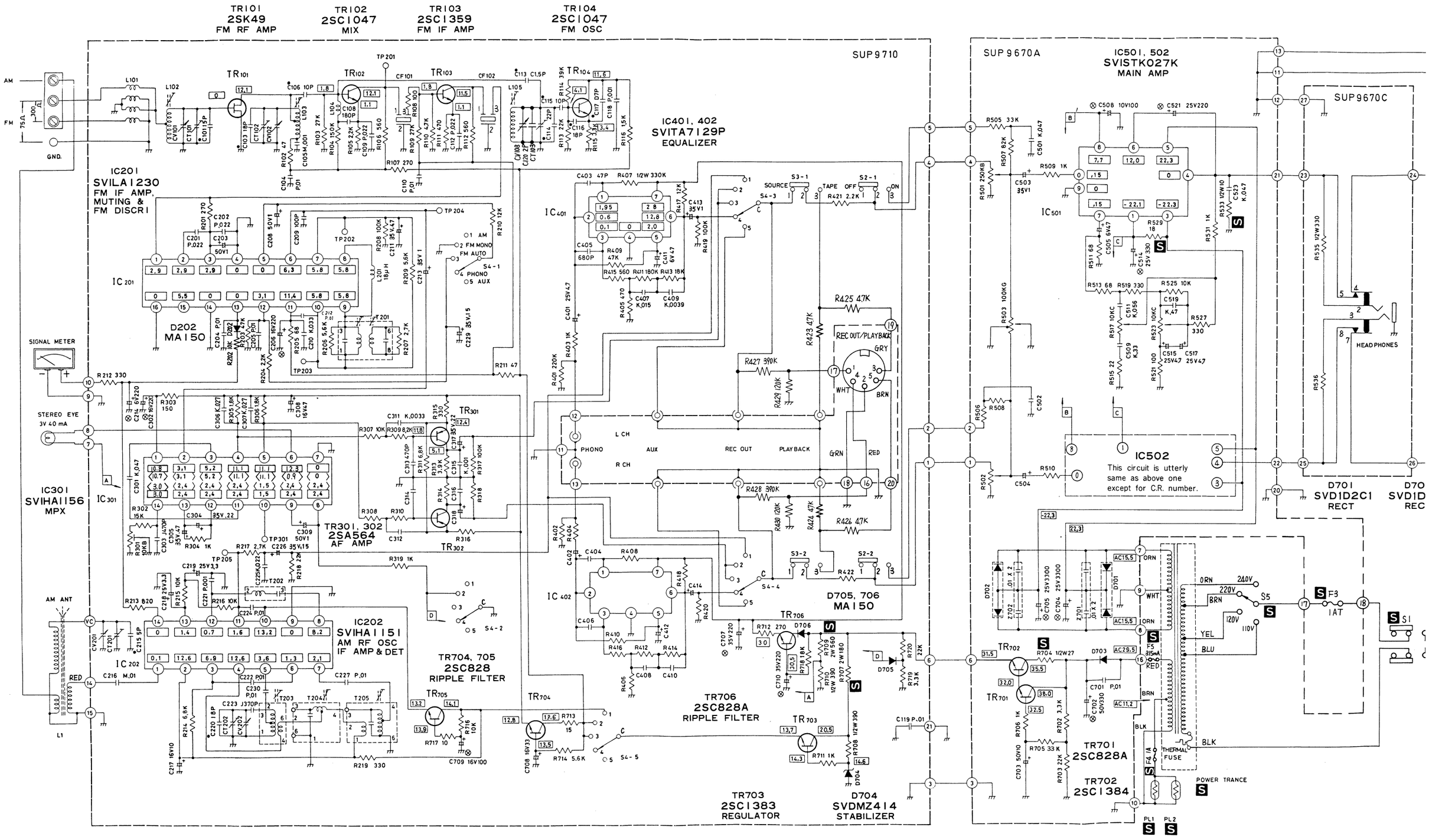


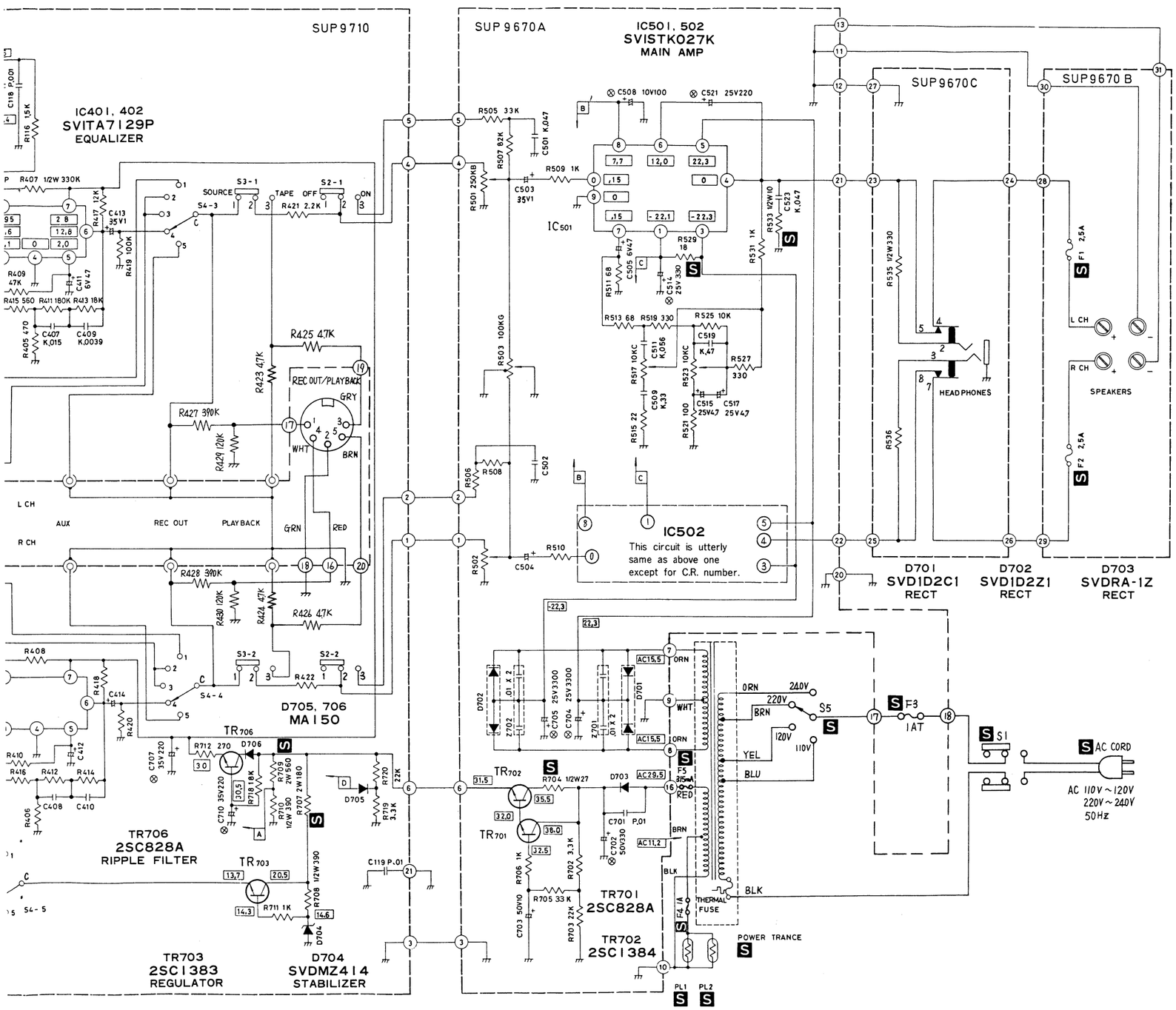
IC401, 402 SVITA7129
(EQUALIZER AMP)



IC501, 502 SVISTK027K
(MAIN AMP)

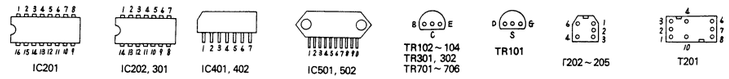
Schematic Diagram.....Model SA-5060 [X], [XG], [GH], [XSD], [XSW] (This schematic diagram may be modified at any time with the development of new technology)



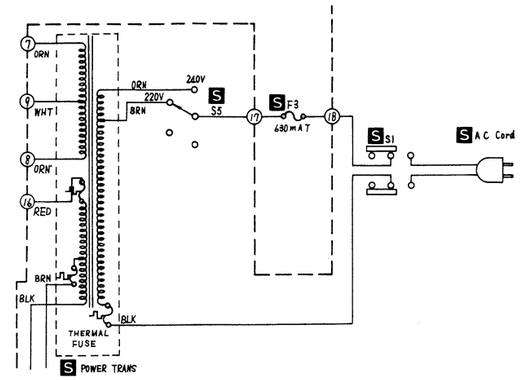


7 SA-5060

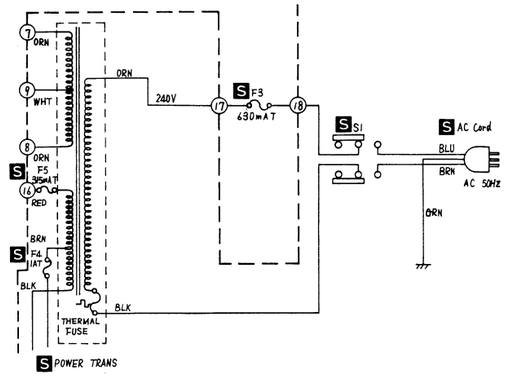
BOTTOM VIEW



POWER SUPPLY Set for England [XE]



POWER SUPPLY Set for Australia [XAL]

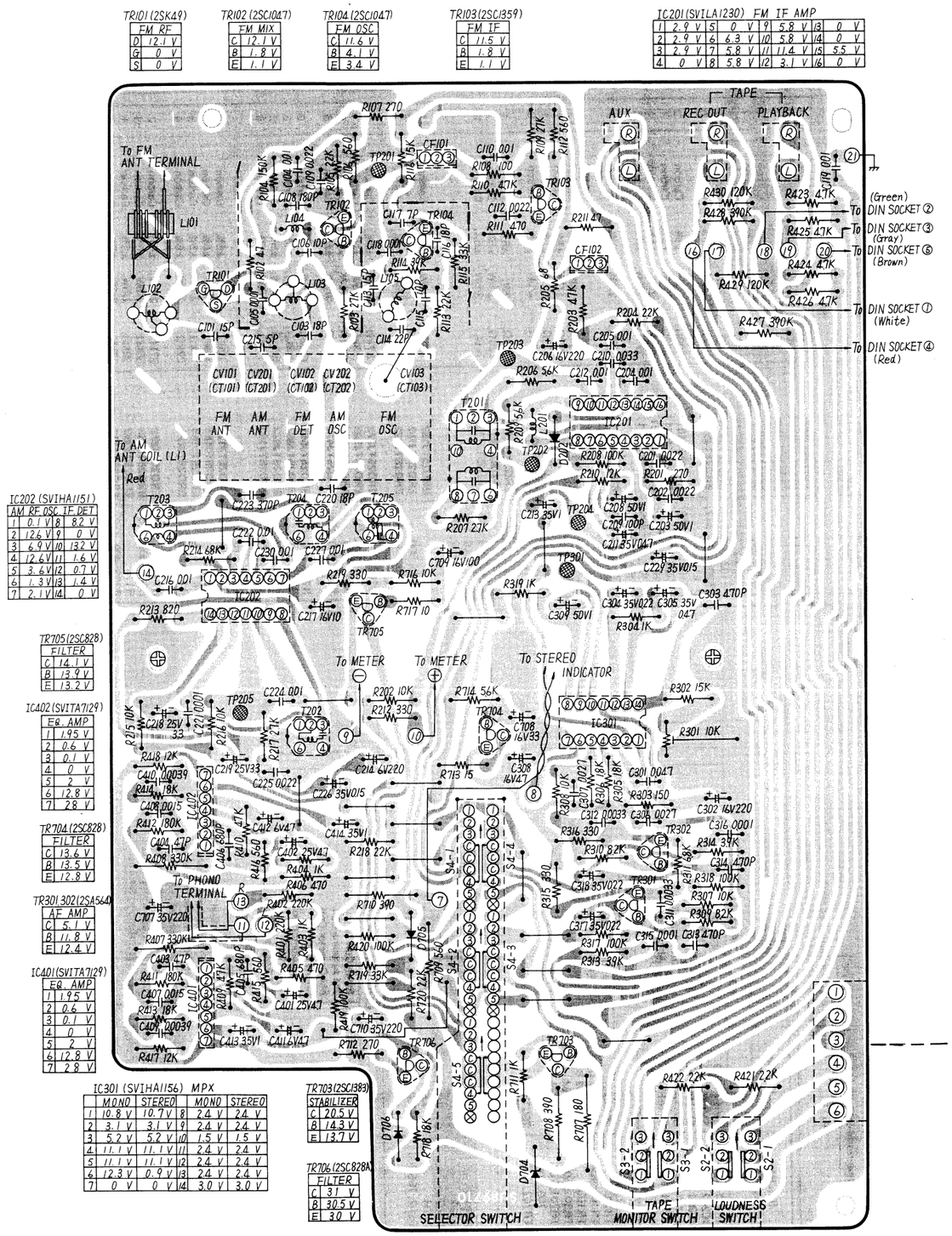


Notes:

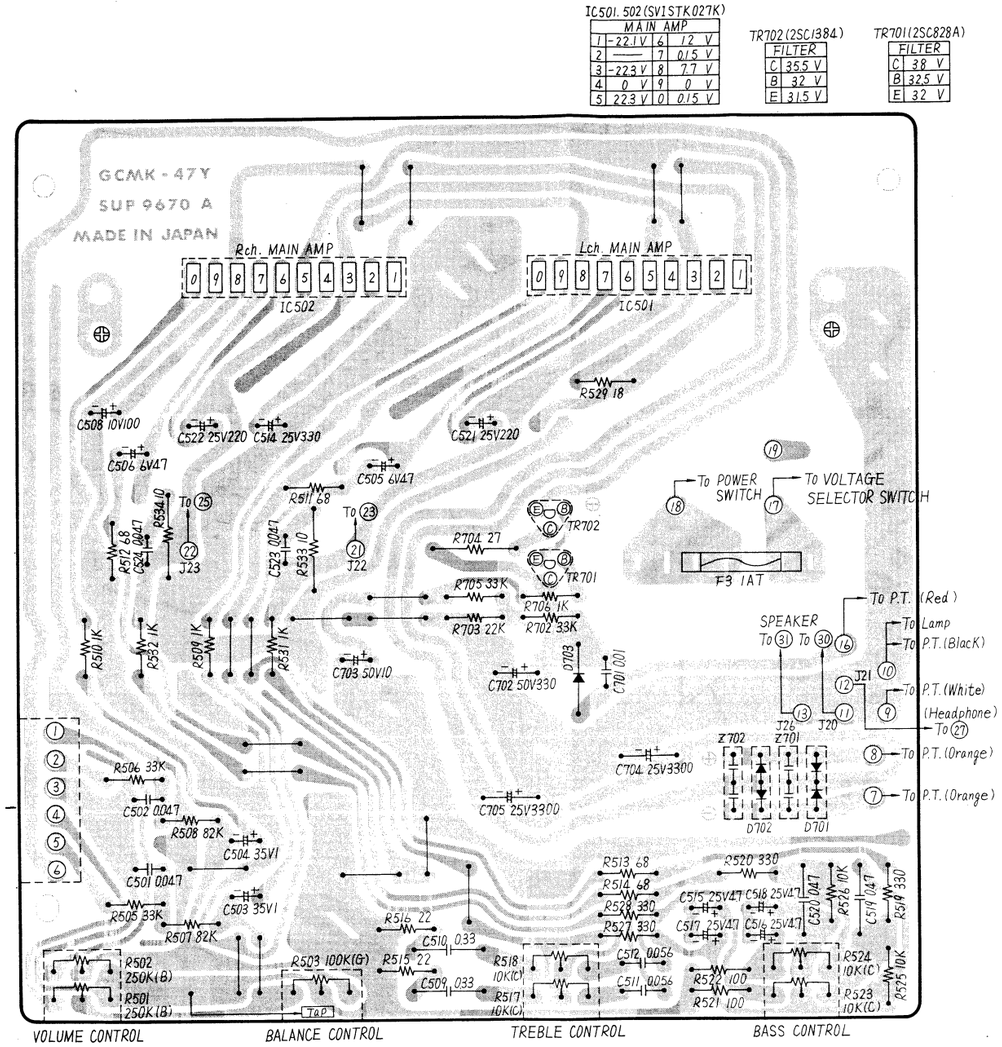
1. **S1** : Power source switch in 「**OFF**」 position.
2. **S2-1, S2-2**: Loudness switch in 「**OFF**」 position.
3. **S3-1, S3-2**: Tape monitor switch in 「**SOURCE**」 position.
4. **S4-1~S4-5**: Selector switch in 「**PHONO**」 position.
   ①AM ⟷ ②FM MONO ⟷ ③FM AUTO ⟷ ④PHONO ⟷ ⑤AUX
5. **S5**: Voltage selector switch in 「**220V**」 position.
6. DC voltage measurements are taken with DC VTVM from chassis ground.
   ▭ AM/FM mono signal reception.
   〈 〉 FM Stereo signal reception.
7. Tolerance J = ± 5%, K = ± 10%, M = ± 20%, P = $+100\ 0$%, C = ± 0.25 pF, D = ± 0.5 pF
8. **R301**: PLL Voltage control oscillator adjustment.
   R501, 502: Volume Control.
   R503: Balance Control.
   R517, 518: Treble Control
   R523, 524: Bass Control

8 SA-5060

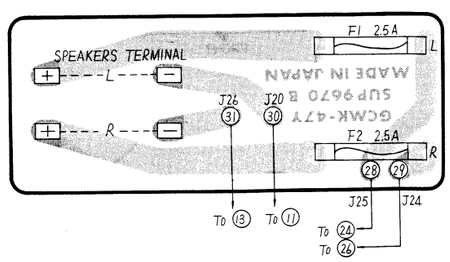
■ FM, AM Tuner & Equalizer Circuit Board



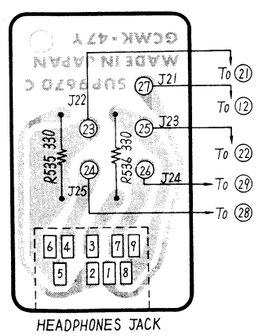
■ Main Amp & Power Supply Circuit Board



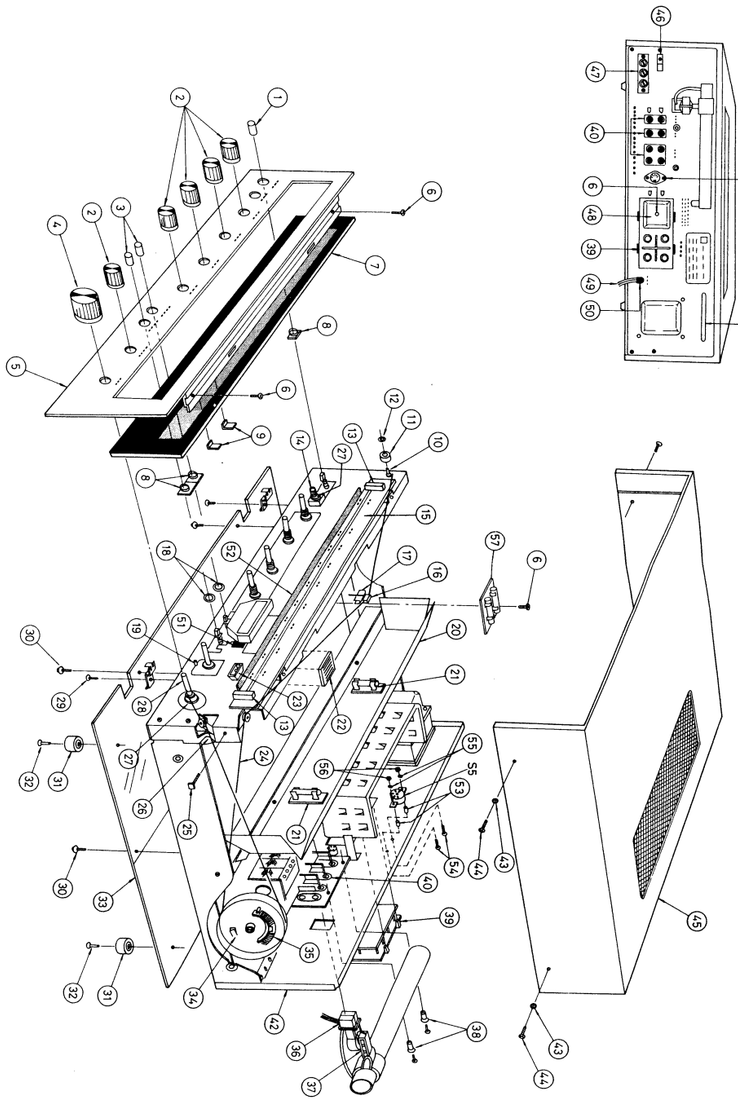
■ Speaker Terminal & Circuit Protection Circuit Board



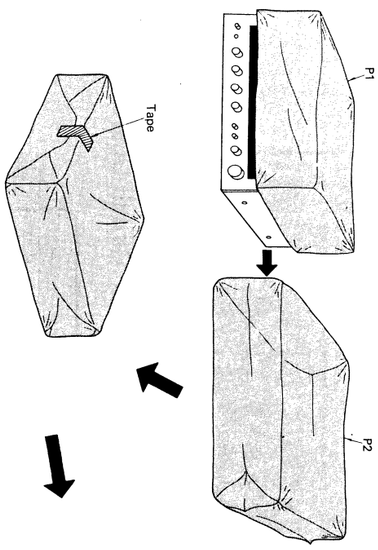
■ Headphone Circuit Board

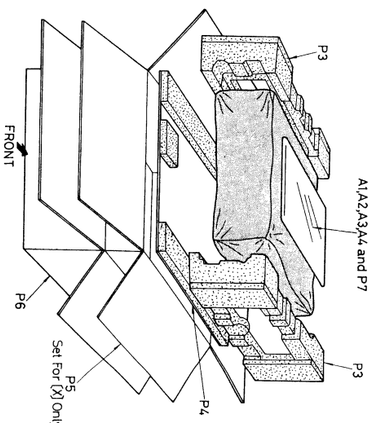


■ CABINET AND CHASSIS PARTS LOCATIONS

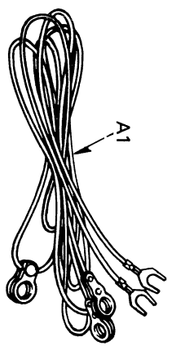


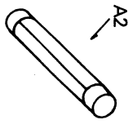
■ PACKING PARTS

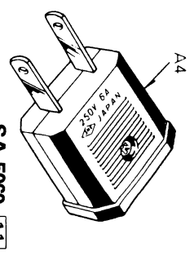




■ ACCESSORIES







■ REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
		INTEGRATED CIRCUITS			
IC201	SVILA1230	FM IF Amp. & Discriminator	1		○
IC202	SVIHA1151	AM RF, IF Amp. OSC & Detector	1		
IC301	SVIHA1156W	FM MPX, PLL Type	1		
IC401, 402	SVITA7129P	Equalizer Amplifier	2		
IC501, 502	SVISTK027K	Main Amplifier	2		
		TRANSISTORS			
TR101	2SK49-H1	FM RF Amplifer (in ranks H1 or H2) [FET]	1		
TR102, 104	**2SC1047-C**	FM Mixer (in ranks C or D)	2		
TR103	**2SC1359-B**	FM OSC & IF Amplifier (in ranks A or B)	1		
TR301, 302	**2SA666A ① -R**	AF Amplifier (in ranks R or S)	2		
TR701, 704, 705, 706	**2SC1328-T**	Ripple Filter (in ranks S or T)	4		
TR702, 703	**2SC1384A-Q**	Ripple Filter (in ranks Q or R)	2		
		DIODES			
D701	SVD1D2C1	Rectifier	1		
D702	SVD1D2Z1	Rectifier	1		
D703	SVDRA-1Z	Rectifier	1		
D704	SVDMZ414	Voltage Stabilizer, 14V Zener	1		○
D202, 705 706	MA150	Voltage Stabilizer	3		
		COILS and TRANSFORMERS			
L101	SLAA4W1-3	Balun Coil	1		
L102	SLAA4N9	FM Antenna Coil	1		
L103	SLDA4N18	FM Detector Coil	1		
L104	RLQY15G5	Choke Coil	1		
L105	SLOA4N9	FM Oscillator Coil	1		
L201	SLQX180-1	Choke Coil	1		
L1	SLF2D23	AM Antenna Coil	1		○
T201	SLI4D513	FM IF Transformer	1		
T202	SLI2M401	AM IF Filter	1		
T203	RLO2M4	AM Oscillator Coil	1		
T204	RLI2M201	AM IF Transformer, Primary	1		○
T205	RLI2M202	AM IF Transformer Secondary	1		○
T1 [X,XG,XGH, XSD, XSW]	SLT5U1-W	Power Transformer, for [X] , Germany, [XG] Holland [XGH] &Scandinavian [XSD,XSW]	1		○
T1 [XE]	SLT5U3-W	Power Transformer, for England [XE]	1		○
T1 [XAL]	SLT5U5-W	Power Transformer, for Australia [XAL]	1		○
		CERAMIC FILTERS			
CF101, 102	SVFE107MA8A	FM IF Circuit, Red, 10.7 MHz	each 2		
	SVFE107MA8B	FM IF Circuit, Blue, 10.67MHz			
	SVFE107MA8C	FM IF Circuit, Orange, 10.73MHz			
	SVFE107MA8D	FM IF Circuit, Black, 10.64MHz			
	SVFE107MA8E	FM IF Circuit, White, 10.76MHz			

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
		RESISTORS			
R717	**ERD25TJ100**	10Ω, 2/5W, ±5%, Carbon	1		
R533, 534	ERD12FJ100	10Ω, 1/2W, ±5%, Carbon	2		
R713	**ERD25TJ150**	15Ω, 2/5W, ±5%, Carbon	1		
R529	**ERD18FJ180**	18Ω, 1/8W, ±5%, Carbon	1		
R515, 516	**ERD25TJ220**	22Ω, 2/5W, ±5%, Carbon	2		
R704	ERD12FJ270	27Ω, 1/2W, ±5%, Carbon	1		
R102, 211	**ERD25TJ470**	47Ω, 2/5W, ±5%, Carbon	2		
R205, 511, 512, 513, 514	**ERD25TJ680**	68Ω, 2/5W, ±5%, Carbon	5		
R108, 521, 522	**ERD25TJ101**	100Ω, 2/5W, ±5%, Carbon	3		
R303	**ERD25TJ151**	150Ω, 2/5W, ±5%, Carbon	1		
R707	ERG2ANJ181	180Ω, 2W, ±5%, Metallic	1		
R107, 201, 405 406, 712	**ERD25TJ271**	270Ω, 2/5W, ±5%, Carbon	5		
R219, 315, 316, 519, 520, 527 528	**ERD25TJ331**	330Ω, 2/5W, ±5%, Carbon	7		
R535, 536	**ERD50TJ331**	330Ω, 1/2W, ±5%, Carbon	2		
R708, 710	**ERD50TJ391**	390Ω, 1/2W, ±5%, Carbon	2		
R111	**ERD25TJ471**	470Ω, 2/5W, ±5%, Carbon	1		
R106, 112, 212, 415, 416	**ERD25TJ561**	560Ω, 2/5W, ±5%, Carbon	5		
R709	ERG2ANJ681	680Ω, 2W, ±5%, Metallic	1		
R213	**ERD25TJ821**	820Ω, 2/5W, ±5%, Carbon	1		
R304, 319, 403, 404, 509, 510 531, 532, 706, 711	**ERD25TJ102**	1kΩ, 2/5W, ±5%, Carbon	10		
R116	**ERD25TJ152**	1.5kΩ, 2/5W, ±5%, Carbon	1		
R305, 306	**ERD25TJ182**	1.8kΩ, 2/5W, ±5%, Carbon	2		
R105, 204, 421, 422	**ERD25TJ222**	2.2kΩ, 2/5W, ±5%, Carbon	4		
R207, 217	**ERD25TJ272**	2.7kΩ, 2/5W, ±5%, Carbon	2		
R115, 702, 719	**ERD25TJ332**	3.3kΩ, 2/5W, ±5%, Carbon	3		
R313, 314	**ERD25TJ392**	3.9kΩ, 2/5W, ±5%, Carbon	2		
R110, 423, 424, 425, 426	**ERD25TJ472**	4.7kΩ, 2/5W, ±5%, Carbon	5		
R206, 209, 714	**ERD25TJ562**	5.6kΩ, 2/5W, ±5%, Carbon	3		
R214, 311	**ERD25TJ682**	6.8kΩ, 2/5W, ±5%, Carbon	2		
R309, 310	**ERD25TJ822**	8.2kΩ, 2/5W, ±5%, Carbon	2		
R202, 215, 216, 307, 308, 525 526, 716	**ERD25TJ103**	10kΩ, 2/5W, ±5%, Carbon	8		
R210, 417, 418	**ERD25TJ123**	12kΩ, 2/5W, ±5%, Carbon	3		
R302	**ERD25TJ153**	15kΩ, 2/5W, ±5%, Carbon	1		
R413, 414, 718	**ERD25TJ183**	18kΩ, 2/5W, ±5%, Carbon	3		
R113, 218, 703, 720	**ERD25TJ223**	22kΩ, 2/5W, ±5%, Carbon	4		
R103, 109	**ERD25TJ273**	27kΩ, 2/5W, ±5%, Carbon	2		
R505, 506, 705	**ERD25TJ333**	33kΩ, 2/5W, ±5%, Carbon	3		
R114	**ERD25TJ393**	39kΩ, 2/5W, ±5%, Carbon	1		
R203, 409, 410	**ERD25TJ473**	47kΩ, 2/5W, ±5%, Carbon	3		
R507, 508	**ERD25TJ823**	82kΩ, 2/5W, ±5%, Carbon	2		
R208, 317, 318, 419, 420	**ERD25TJ104**	100kΩ, 2/5W, ±5%, Carbon	5		
R429, 430	**ERD25TJ124**	120kΩ, 2/5W, ±5%, Carbon	2		
R104	**ERD25TJ154**	150kΩ, 2/5W, ±5%, Carbon	1		
R411, 412	**ERD25TJ184**	180kΩ, 2/5W, ±5%, Carbon	2		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
R401, 402	**ERD25TJ224**	220kΩ, 2/5W, ±5%, Carbon	2		
R407, 408	**ERD50TJ334**	330kΩ, 1/2W, ±5%, Carbon	2		
R427, 428	**ERD25TJ394**	390kΩ, 2/5W, ±5%, Carbon	2		
		VARIABLE RESISTORS			
R301	EVLS3AA00B14	10kΩ (B), VCO Adjustment	1		
R501, 502	EWKB8AF25BF5	250kΩ (B), Volume Control	1		O
R503	EVH7JAF25G15	100kΩ (G), Balance Control	1		O
R517, 518, 523, 524	EWKBAAF25C14	10kΩ (C), Bass & Treble Control	2		O
		CAPACITORS			
C113	ECCD1H1R5CC	1.5pF, 50WV, ±0.25pF, Ceramic	1		
C120	ECCD1H020CC	2pF, 50WV, ±0.25pF, Ceramic	1		
C215	ECCD1H050CC	5pF, 50WV, ±0.25pF, Ceramic	1		
C117	ECCD1H070DC	7pF, 50WV, ±0.5pF, Ceramic	1		
C106, 115	ECCD1H100KC	10pF, 50WV, ±10%, Ceramic	2		
C101	ECCD1H150KC	15pF, 50WV, ±10%, Ceramic	1		
C103, 116	ECCD1H180KC	18pF, 50WV, ±10%, Ceramic	2		
C220	ECCD1H220KC	22pF, 50WV, ±10%, Ceramic	1		
C114	ECCD1H220KR	22pF, 50WV, ±10%, Ceramic	1		
C403, 404	ECCD1H470K	47pF, 50WV, ±10%, Ceramic	2		
C209	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1		
C108	ECCD1H181K	180pF, 50WV, ±10%, Ceramic	1		
C223	ECQS1371JZ	370pF, 125WV, ±5%, Styrol	1		
C303	ECQS1471JZK	470pF, 125WV, ±5%, Styrol	1		
C313, 314	ECKD2H471KB	470pF, 500WV, ±10%, Ceramic	2		
C405, 406	ECKD2H681KB	680pF, 500WV, ±10%, Ceramic	2		
C315, 316	ECQM05102KZ	0.01μF, 50WV, ±10%, Polyester	2		
C118, 221	ECKD1H102PF	0.001μF, 50WV, ±10%, Ceramic	2		
C105	ECKD1H102MDA	0.001μF, 50WV, ±20%, Ceramic	1		
C311, 312	ECQM05332KZ	0.0033μF, 50WV, ±10%, Polyester	2		
C409, 410	ECQM05392KZ	0.0039μF, 50WV, ±10%, Polyester	2		
C104, 110, 119, 204, 205, 212, 222, 224, 227, 230	ECKD1H103PF	0.01μF, 50WV, Ceramic	10		
C216	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	1		
C701	ECKD1H103PF	0.01μF, 50WV, Ceramic	1		
C407, 408	ECQM05153KZ	0.015μF, 50WV, ±10%, Polyester	2		
C109, 112, 201, 202	ECKD1H223PF	0.022μF, 50WV, Ceramic	4		
C225	ECQM05223KZ	0.022μF, 50WV, ±10%, Polyester	1		
C306, 307	ECQM05273KZ	0.027μF, 50WV, ±10%, Polyester	2		
C210	ECQM05333KZ	0.033μF, 50WV, ±10%, Polyester	1		
C301, 501, 502, 523, 524	ECQM05473KZ	0.047μF 50WV, ±10%, Polyester	5		
C511, 512	ECQM05563KZ	0.056μF, 50WV, ±10%, Polyester	2		
C509, 510	ECQM05334KZ	0.33μF, 50WV, ±10%, Polyester	2		
C519, 520	ECQM05474KZ	0.47μF, 50WV, ±10%, Polyester	2		
C226, 229	ECSZ35GFR15	0.15μF, 35WV, Electrolytic	2		
C304, 317, 318	ECSZ35GFR22	0.22μF, 35WV, Electrolytic	3		
C211, 305	ECSZ35GFR47	0.47μF, 35WV, Electrolytic	2		
C213, 413, 414, 503, 504	ECSZ35GF1	1μF, 35WV, Electrolytic	5		
C203, 208	ECEA50V1L	1μF, 50WV, Electrolytic	2		
C309	ECEA50M1R	1μF, 50WV, Electrolytic	1		
C219	ECEA25V3R3L	3.3μF, 25WV, Electrolytic	1		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C401, 402	ECEA25M4R7R	4.7μF, 25WV, Electrolytic	2		
C515, 516, 517 518	ECEA25Z4R7	4.7μF, 25WV, Electrolytic	4		
C703	ECEA50V10L	10μF, 50WV, Electrolytic	1		
C217	ECEA16V10L	10μF, 16WV, Electrolytic	1		
C708	ECEA16V33	33μF, 16WV, Electrolytic	1		
C411, 412, 505 506	ECEA6V47L	47μF, 6.3WV, Electrolytic	4		
C308	ECEA16V47L	47μF, 16WV, Electrolytic	1		
C508	ECEA10V100V	100μF, 10WV, Electrolytic	1		
C709	ECEA16V100L	100μF, 16WV, Electrolytic	1		
C214	ECEA6V220V	220μF, 6.3WV, Electrolytic	1		
C206, 302	ECEA16V220V	220μF, 16WV, Electrolytic	2		
C521, 522	ECEA25V220V	220μF, 25WV, Electrolytic	2		
C707, 710	ECEA35V220V	220μF, 35WV, Electrolytic	2		
C514	ECEA25V330V	330μF, 25WV, Electrolytic	1		
C702	ECEA50V330V	330μF, 50WV, Electrolytic	1		
C704, 705	ECET25R332SU	3300μF, 25WV, Electrolytic	2		O
		VARIABLE CAPACITOR			
CV101, 102, 103, 201, 202 (CT101, 102, 103,) 201, 202)	ECV5MD34X67G	Tuning Gang, FM & AM (with Trimmer)	1		
		COMPONENT COMBINATIONS			
Z701, 702	RXAF103P22HD	0.01μF (X2), 500WV, Hum Cancel	2		
		FUSES			
F1, 2	XBA2C25SS0	2.5A.T, Speaker Circuit Protection	2		
F3[X, XG, XGH, XSD, XSW]	XBA2C10TR0	1A. T, Set for [X], Germany [XGH] Holland [XGH] & Scandinavian [XSD, XSW]	1		
F3[XE, XAL]	XBA2C06TR0	630mA. T, Set for England [XE] & Australia [XAL]	1		
F4[X, XG, XGH, XAL, XSD, XSW]	XBA2C10TR0	1A. T, Set for [X], Germany [XG], Holland [XGH], Australia [XAL] & Scandinavian [XSD, XSW]	1		
F5[X, XG, XGH, XAL, XSD, XSW]	XBA2C03TR0	315mA. T, Set for [X], Germany [XG], Holland [XAL], Australia [XAL] & Scandinavian [XSD, XSW]	1		
		LAMPS			
PL1, 2	XAMR54T	Lamp, Dial (12.6V, 0.38A)	2		
PL3	XAM13T300	Lamp, Stereo Indicator (3V, 40mA)	1		
		METER			
	SSM77	Meter, FM & AM Signal	1		O
		SWITCHES			
S1 [X, XG, XGH, XE, XSD, XSW]	ESB7075	Switch, Power, Set for [X], Germany [XG], Holland [XGH], England [XE] & Scandinavian [XSD, XSW]	1		O

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
S1 [XAL]	ESB7072	Switch, Power, Set for Australia [XAL]	1		
S2, 3	SSH219S	Switch, Loudness & Tape Monitor	1		O
S4	SSR57	Switch, Selector	1		O
S5 [X, XG, XGH, XSD, XSW]	ESE372	Switch, Voltage Selector, Set for [X], Germany [XG], Holland [XGH] & Scandinavian [XSD, XSW]	1		O
S5 [XE]	ESE376	Switch, Voltage Selectro Set for England [XE] only	1		
CABINET and CHASSIS PARTS					
1	SBC147	Button, Power Switch	1		O
2	SBN589	Knob, Bass, Treble, Balance, Volume & Selector	5		O
3	SBC149	Button, Loudness & Tape Switch	2		O
4	SBN587	Knob, Tuning	1		O
5	SGW6910	Panel, Front	1		O
6	XTN3+8B	Screw, Panel, DIN Socket & Fuse Cover M'tg	5		
7	SDE223-1	Dial Plate, Plastic	1		O
8	SGXA39	Sleeve, Push Switches Button	1		
9	SMM3	Pin, Meter M'tg.	2		O
10	RDY34	Shaft, Pulley	4		
11	RDR20	Pulley, Dial Cord	4		
12	RNW150-2	Washer, Pulley Lock	4		
13	SHR9265	Cover, Dial Light	2		O
14	SJJ55	Jack, Headphones	1		
15	SKD2510	Scale, Dial	1		O
16	SDPA8	Pointer, Dial	1		
17	SHPA4	Paper, Pointer Slid	1		
18	SHG1139	Rubber Bushing, Light Cover	2		
19	RDY2-1	Shaft, Dial Cord	1		
20	SDH321	Plate, Dial Light Reflection	1		O
21	SJF109-2	Holder, Dial Lamp	2		O
22	SJS5611	Connector, Printed Circuit Board	1		
23	SHG1277	Bracket, Stereo Indicator Lmap	1		
24	SDZ51-1	Cord, Dial (76-7/8", 195cm)	1 roll		
25	XSHS3A6S	Screw, Dial Cord Ass'y M'tg.	1		
26	SDX751S	Flywheel, Tuning	1		
	XXAS3K5S	Screw, Flywheel M'tg.	2		
27	XNS9	Nut, Tuning Shaft & Headphones Jack	2		
	XWV9	Spring Washer, Tuning Shaft	1		
28	SDT8005	Shaft, Tuning Ass'y	1		O
29	XTV3+8C	Screw, Metal Fitting M'tg.	2		
30	XTW3+10E	Screw, Bottom Board M'tg.	6		
31	SKL119	Foot, Set	4		
32	XRP3X12	Rivet, Foot	4		
33	SYU61	Bottom Board	1		O
34	SDD47-1	Drum, Dial Cord	1		
35	SDSA4121	Spring, Dial Cord	1		
36	SMA207	Holder, AM Antenna Coil	1		
37	SMA205	Holder. AM Antenna Coil	1		
38	SHR401-1	Lock Pin, Input Terminal M'tg.	2		
39	SJF4407-1	Terminal, Speaker & Fuse Holder	1		
40	SJFA3806-1	Terminal, PHONO, AUX & Tape Deck	1		
41	SJS13-1	Socket, DIN	1		
42 [X, XG, XGH]	SGP310-1BX	Rear Panel (with Name Plate SGT1229C) Set for [X], Germany [XG] & Holland [XGH]	1		O
42 [XE]	SGP310-1BE	Rear Panel (with Name Plate SGT12292) Set for England [XE] only	1		O
42 [XSD, XSW]	SGP310-1BD	Rear Panel (with Name Plate SGT12291) Set for Scandinavian [XSD, XSW]	1		O
42 [XAL]	SGP310-2CL	Rear Panel (with Name Plate SGT12293) Set for Australia [XAL] only	1		O
43	XWG4FZ	Washer, Cabinet Screw	4		

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
44	XTB4+12FFZ	Screw, Cabinet M'tg.	4		
	XWA4BFZ	Spring Washer, Cabinet Screw	4		
45 [X, XAL]	SKA8410	Cabinet, Set for [X] & Australia [XAL] Brown Wooden	1		O
45 [XE]	SKA8412	Cabinet, Set for England [XE] Brown Wooden	1		O
45 [XG, XGH, XSD, XSW]	SKA8411	Cabinet, Set for Germany [XG], Holland [XGH] & Scandinavian [XSD, XSW] Black Wooden	1		O
46	SMA211	Holder, Coaxal FM Antenna	1		O
47	SJF4303	Terminal, Ext. FM AM Antenna	1		
48	SUV337	Cover, Circuit Protection Fuse	1		
49 [X, XG]	SJA95	AC Cord, Set for [X] & Germany [XG]	1		
49 [XGH, XSD]	SJA81	AC Cord, Set for Holland [XGH] & Scandinavian [XSD]	1		
49 [XSW]	SJA68	AC Cord, Set for Swiss [XSW]	1		
49 [XE]	SJA99	AC Cord, Set for England [XE]	1		
49 [XAL]	SJA79	AC Cord, Set for Australia [XAL]	1		
50 [X, XG, XGH, XSD, XSW]	SHR127	Bushing, AC Cord, Set for [X], Germany [XG], Holland [XGH] & Scandinavian [XSD, XSW]	1		
50 [XE]	SHR129	Bushing, AC Cord, Set for England [XE]	1		
50 [XAL]	SHR131	Bushing, AC Cord, Set for Australia [XAL]	1		
51	SHG605	Rubber Cushion, Meter	2		
	SMX111	Insulator Plate, Power IC	2		
52	SUM5	Bracket, Dial Scale	1		O
53	SUDA41	Spacer, Voltage Selector Switch	2		
54	XSN3+14S	Bolt, Voltage Selector Switch M'tg.	2		
55	XWA3B	Spring Washer, Voltage Selector Switch	2		
56	XNG3BS	Nut, Voltage Selector Switch M'tg.	2		
[XE]	SUV349	Cover, Rear Panel Power Transformer Only Set for England [XE]	1		O
57	QTF1020	Holder, Fuse	1		
ACCESSORIES					
A1	SSA251	Cord, 75 FM Antenna	1		
A2	XBA2C25SSO	2.5A Fuse, SP. Circuit Protection	2		
A3	RJP5	Pin Plug	1		
A4 [X]	RJP16AS	AC Plug, Only Set for [X]	1		
PACKING PARTS					
P1	SPPA23	Soft Cover	1		
P2	SPP163	Polyethylene Bag	1		
P3 [XG, XGH, XE, XAL, XSD, XSW]	SPS331	Pad, Left & Right Side, Set for Germany [XG], Holland [XGH], England [XE], Australia [XAL] & Scandinavian [XSD, XSW]	2		
P3 [X]	SPS331-1	Pad, Left & Right Side, Set for [X]	1		
P4 [X]	SPS485	Pad, Bottom Side, Only Set for [X]	1		O
P4 [XGH, XAL, XSD]	SPS493	Pad, Bottom Side, Set for Holland [XGH], Australia [XAL] & Scandinavian [XSD]	1		O
P5 [X]	SPN5873	Carton Box, Inner, Only Set for [X]	1		O
P6 [X]	SPG741	Carton Box, Outer, Only Set for [X]	1		O
P6 [XG, XSW]	SPG657-2	Carton Box, Set for Germany [XG] & Swiss [XSW]	1		O
P6 [XGH, XSD, XAL]	SPG739	Carton Box, Set for Hollnad [XGH], Australia [XAL] & Scandinavian [XSD]	1		O
P6 [XE]	SPG657-3	Carton Box, Only Set for England [XE]	1		O
P7 [X, XG, XGH, XSD, XSW]	SQF1247	Printed Matter, Set for [X], Germany [XG], Holland [XGH] & Scandinavian [XSD, XSW]	1		O
P7 [XE]	SQF1255	Printed Matter, Only Set for England [XE]	1		O
P7 [XAL]	SQF1257	Printed Matter, Only Set for Australia [XAL]	1		O

Note: Set for [X] are European, Asia, Latin America, Oceania, Middle East and Africa.

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